

William Banks
Foamex, L.P.
3005 Commercial Road
Fort Wayne, Indiana 46809

Re: 003-13852-00225
2nd Minor Source Modification to:
Part 70 permit No.: T003-7680-00225

Dear Mr. Banks:

Foamex, L.P. was issued Part 70 operating permit T003-7680-00225 on March 22, 1999 for a stationary plant that manufactures polyurethane foam. An application to modify the source was received on January 30, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

One (1) 9-platen felt press E (ID: FPE), with a maximum capacity to process foam at a rate of 53 sheets per hour, exhausting through stack ID: 51; and one (1) flame laminator ID: FL-03, with natural gas-fired burner rated at 0.35 million British Thermal Units per hour (mmBtu/hr). This laminator has a maximum capacity to process foam at a rate of 3,000,000 square feet per month (ft²/mo), exhausting through stack ID: 02-003).

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be

placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

APD

cc: File - Allen County
U.S. EPA, Region V
Allen County Health Department
Air Compliance Section Inspector - Jennifer Schick
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Part 70 Minor Source Modification

Source Background and Description

Source Name:	Foamex, L.P.
Source Location:	3005 Commercial Road, Fort Wayne, Indiana
County:	Allen
SIC Code:	3086
Operation Permit No.:	T 003-7680-00225
Operation Permit Issuance Date:	March 22, 1999
Minor Source Modification No.:	003-13852-00225
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed a modification application from Foamex, L.P. relating to the construction of the following equipment used in the polyurethane foam production and foam processing:

- (a) One (1) 9-platen felt press E (ID: FPE), with a maximum capacity to process foam at a rate of 53 sheets per hour, exhausting through stack ID: 51; and
- (b) One (1) flame laminator ID: FL-03, with natural gas-fired burner rated at 0.35 million British Thermal Units per hour (mmBtu/hr). This laminator has a maximum capacity to process foam at a rate of 3,000,000 square feet per month (ft²/mo), exhausting through stack ID: 02-003).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
51	9-platen felt press E (ID: FPE)	20	24" x 36"	5,000	120
02-003	Flame laminator ID: FL-03	36.5	2.4'	11,400	100

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 30, 2001.

Emission Calculations

- (a) 9-Platen Felt Press E (ID: FPE) Emissions:
In the felting process, foam sheets are heated by a hot roll and compressed prior to substrate lamination.

The VOC and PM/PM10 emission factors were established from the 1995 stack test of a like kind source at the Foamex Eddiestone plant. The result of this stack test was utilized in the issuance of the Part 70 permit (T003-7680-00225) of this plant, Foamex, L.P., 3005 Commercial Road, Fort Wayne, Indiana 46809. The Part 70 permit has a provision for stack testing to verify emission factors used. These emission factors will also be utilized in this application.

Facility	Throughput (sheets/hour)	VOC Emission Factor, Ef (lb/sheet)	VOC Emission (Tons/year)	PM/PM10 Emission Factor, Ef (lb/sheet)	PM/PM10 Emissions (Tons/year)
9-Platen Felt Press E (ID: FPE)	53	0.041	9.5	13.5×10^{-4}	0.30

Methodology:
Emissions, tons/yr = rate, shts/hr * 8760 hrs/yr * Ef, lb/sht * ton/2000 lb

- (b) Flame laminator ID: FL-03 Emissions:
The flame laminator will use a 0.35 mmBtu/hr burner to adhere substrate backing to sheets of foam.

The following emission factors developed through a stack testing done on March 1995, for Foamex- Santa Teresa, New Mexico will be used in the emission calculations, except for the SO₂. These emission factors are worse compared to the AP-42 emission factors, Natural Gas Combustion, Commercial Boilers (<100 mmBtu/hr).

Pollutant	Laminator Capacity (ft ² /mo)	Emission Factor (lb/ft ²)	Emissions (tons/yr)
NOx	3,000,000	4×10^{-5}	0.72
PM	3,000,000	4.6×10^{-5}	0.83
CO	3,000,000	1.2×10^{-4}	2.2
VOC	3,000,000	1.6×10^{-4}	2.9
SO ₂	3,000,000	6×10^{-1}	0.0
Hydrochloric Acid (HCl)	3,000,000	2.9×10^{-4}	5.2
Methylenediphenyl Diisocyanate (MDI)	3,000,000	3×10^{-6}	0.05
Hydrofluoric Acid (HF)	3,000,000	2.8×10^{-8}	0.0
Hydrogen cyanide (HCN)	3,000,000	2.6×10^{-5}	0.5
Toluene Diisocyanate (TDI)	3,000,000	3×10^{-6}	0.05
TOTAL			5.80

Methodology:
Emissions, tons/yr = rate, ft²/mo * Ef, lb/ft² * 12 mo/yr * ton/2000 lb

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	1.13
PM-10	1.13
SO ₂	0.0
VOC	12.4
CO	2.2
NO _x	0.72

Hazardous Air Pollutant	Potential To Emit (tons/year)
Hydrochloric Acid (HCl)	5.2
Methylenediphenyl Diisocyanate (MDI)	0.05
Hydrofluoric Acid (HF)	0.0
Hydrogen cyanide (HCN)	0.5
Toluene Diisocyanate (TDI)	0.05
Worst Single HAP	5.2
Combined HAPs	5.8

- (a) The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d), since VOC is emitted at levels greater than ten (10) tons per year, but less than twenty-five (25) tons per year.

County Attainment Status

The source is located in Allen County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Allen County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (came from the **Limited Potential to Emit Table** of the Technical Support Document of the issued Part 70 Permit):

Pollutant	Emissions (tons/year)
PM	15.1
PM-10	15.0
SO ₂	56.0
VOC	210.5
CO	93.2
NO _x	27.6

- (a) The existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
9-Platen Felt Press E (ID: FPE)	0.30	0.30	0.0	9.5	0.0	0.0	0.0
Flame Laminator ID: FL-03	0.83	0.83	0.0	2.9	2.2	0.72	5.8
TOTAL	1.13	1.13	0.0	12.4	2.2	0.72	5.8

This modification to an existing minor stationary source is not major because the emission increase is less than the 250 tons per year, PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS):
There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs):
- (1) 40 CFR Part 63, Subpart III - National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam and Rebond Foam Process: This NESHAP is applicable to each new and existing process that **produces** flexible polyurethane foam or rebond foam, that emits a HAP and is located at a plant site that is a major source for HAPs. A process meeting one of the following criteria listed in paragraphs (c)(1) through (3) of this section shall **not** be subject to the provisions of this subpart:
- (1) A process exclusively dedicated to the fabrication of flexible polyurethane foam;
- (2) A research and development process; or
- (3) A slabstock flexible polyurethane foam process at a plant site where the total amount of HAP, excluding diisocyanate reactants, used for slabstock foam production and foam fabrication is less than or equal to five tons per year, provided that slabstock foam production and foam fabrication processes are the only processes at the plant site that emit HAP.
- The proposed one (1) 9-platen felt press E (ID: FPE), and the one (1) flame laminator ID: FL-03, are **not** subject to this NESHAP because they are not processes that **produce** the flexible polyurethane foam or rebond foam, but they are processes that are exclusively dedicated to the **fabrication** (i.e. cutting, or bonding flexible polyurethane foam pieces together or to other substrates) of flexible polyurethane foam.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Sourcewide

- (a) 326 IAC 2-6 (Emission Reporting)
This rule is applicable to the source, since it is a Title V source, with Potential to Emit VOC at a rate greater than 100 tons per year. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).
- (b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (c) 326 IAC 6-4 (Fugitive Dust Emissions)
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

State Rule Applicability - Individual Facilities

- (a) 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)
This rule applies to new facilities as of January 1, 1980, which have potential VOC emissions of 25 tons or more per year, located anywhere in the state, which are not regulated by other provisions of this article, 326 IAC 8.

The proposed one (1) 9-platen felt press E (ID: FPE), and the one (1) flame laminator ID: FL-03 are not subject to 326 IAC 8-1-6, because the potential VOC emissions from each facility is less than 25 tons per year.

- (b) 26 IAC 2-4.1-1 (New Source Toxics Control)
The flame laminator ID: FL-03 is not subject to this rule, because it is not a major source for HAPs.

- (c) 326 IAC 6-3-2 (Process Operations)
This rule mandates a PM emission limits for the proposed one (1) 9-platen felt press E (ID: FPE), and the one (1) flame laminator ID: FL-03 , using the following equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Facility	Process Weight Rate (ton/hr)	PM Emissions Limit (lb/hr)
9-Platen felt press E (ID: FPE)	1.065	4.28
Flame laminator ID: FL-03	2.0	6.5

The platen felt press E and the flame laminator ID: FL-03 are in compliance with the rule, because their potential uncontrolled emissions are well below the PM limits.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 **Minor Source Modification No. 003-13852-00225**.